WILMERHALE

FACSIMILE

+1 617 526 6223 (t)
+1 617 526 5000 (f)
monica.grewal@wilmerhale.com

Date September 26, 2008

To Examiner Martin J. Angebranndt Fax 571-273-8300 Tel 571-272-1387

cc

From Monica Grewal Pages 4

Re **Application Number 10/077,601**

Dear Examiner Angebranndt,

For your review, enclosed please find a copy of Dr. Rao's declaration, which we have prepared pursuant to your suggestions in the latest advisory action.

I will call on Monday, September 29, 2008 to discuss the declaration and our response which we are preparing and that we will formally file.

Thank you for your time.

Best regards,

monica

Monica Grewal

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Wu, *et al.*	Art Unit:	1795
Serial No.:	10/077,601	Examiner:	Angebranndt, Martin J
Filing Date:	February 15, 2002		
Title:	*OPTICAL STORAGE SYSTEM*	Atty. Docket:	1823430.00121US1

DECLARATION OF D.V.G.L.N. RAO UNDER 37 C.F.R. §1.132

I, D.V.G.L.N. Rao, Ph.D., hereby declare and state as follows:

1. I am a co-inventor, with Dr. Pengfei Wu of the invention described and claimed in the pending United States Patent Application No. 10/077,601.

2. Dr. Wu is also a co-author of the reference titled "Transient biphotonic holographic grating in photoisomerizative azo materials," published in Physical Review B, Vol. 57, Number 7, pp. 3874-3880 (2/98) (hereinafter Wu-57).

3. Wu-57 uses two kinds of mono-azobenzene molecules, methyl yellow (MY, 4-dimethylamino-azobenzene) and ethyl orange (EO, 4-diethylamino-azobenzene-4'-sodium sulfonate) doped into two kinds of polymers, polymethylmethacrylate (PMMA) and polyvinylalcohol (PVA), respectively to produce samples of MY-PMMA films and EO-PVA films as the storage medium (Wu-57, page 3876, right column).

4. In an embodiment, the present invention also teaches using methyl yellow azobenzene molecules doped into PMMA polymer to produce samples of MY-PMMA films as the storage medium (US 2003/0156523, [0041]).

Rao Declaration

5. In another embodiment, the present invention teaches using methyl orange (4-[4-dimethylamino-phenylazo]benzenesulfonic acid, sodium salt, which is a homologue of ethyl orange molecule used by Wu-57), doped into PVA polymer to produce samples of MO-PVA films as the storage medium (US 2003/0156523, [0041]).

6. The MY-PMMA films used in both Wu-57 and an embodiment of the present invention, have the same materials and composition, and have the same glass transition temperature, Tg.

7. The EO-PVA film used in Wu-57 and the MO-PVA film used in an embodiment of the present invention use the same polymer PVA and thus have approximately the same glass transition temperatures, because the glass transition temperature depends mainly on the polymer, and moreover the amount of azobenzene doped into polymer is negligible, which is around 1% by weight in embodiments of the present invention (US 2003/0156523, [0025]) and around 5% by weight in Wu-57 (Wu-57, page 3876, right column).

8. Tg is approximately 85° C for PVA and approximately 105° C for PMMA.

9. Wu-57 applies a biphotonic four-wave mixing process (see e.g., Fig. 4, P. 3877 of Wu-57) to the storage medium to generate transient (i.e., volatile) gratings (Wu-57, Abstract; p. 3875, right column; p. 3878, right column).

10. In contrast, the inventive process of the present application, when applied to the storage medium having the very same polymer (PVA) as Wu-57, and approximately the same Tg of the resultant composition, generates an unobvious result, which is a non-volatile grating that is stable for an extended period of time (US 2003/0156523, Abstract, [0035]).

Rao Declaration

11. All tests of the inventive process using the PVA polymer, described in the present application, were conducted at room temperature which is well below the Tg of the resultant composition of the stable grating.

12. The resulting grating is stable and can be read repeatedly for 12 hours, without obvious attenuation (US 2003/0156523, [0035]).

13. This stable orientation grating is neither observed, nor expected in the process of the Wu-57 reference.

14. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the patent in which this declaration is made.

Date: 9/17/2008

D. V. G. L. N Rao

D.V.G.L.N. Rao, Ph.D.
Distinguished Professor
Department of Physics
University of Massachusetts, Boston
100 Morrissey Blvd,
Boston, MA 02125